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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|-------------------------|------------------|
| 10/019,323 | 06/07/2002 | Vjatcheslav Tretiakov | 0796/66435 | 6256 |
| 7590 | 07/14/2004 | | EXAMINER HO, ALLEN C | |
| Donald S Dowden Cooper & Dunham 1185 Avenue of the Americas New York, NY 10036 | | | ART UNIT 2882 | PAPER NUMBER |

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/019,323 | TRETIAKOV ET AL. | |
| | Examiner | Art Unit | |
| | Allen C. Ho | 2882 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 May 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 3-9 and 17-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 3-5, 17, 18 and 20 is/are allowed.

6) Claim(s) 21 is/are rejected.

7) Claim(s) 6-9 and 19 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 21 May 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____.

DETAILED ACTION

Drawings

1. Figs. 2a and 2b submitted on 21 May 2005 appear to be informal. Accordingly, replacement drawing sheets are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Claim Objections

2. Claim 6 is objected to because of the following informalities: line 15, "ad" should be replaced by --and--. Appropriate correction is required.

3. Claims 7-9 are objected to because of the following informalities: Claim 7 recites the limitation "film cassette" in line 21. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

4. Claim 8 is objected to because of the following informalities: line 3, "a)" should be deleted. Appropriate correction is required.

5. Claim 19 is objected to because of the following informalities: line 2, "and/or" is objected. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kresse (U. S. Patent No. 4,894,855) in view of Stivender *et al.* (U. S. Patent No. 4,358,856).

With respect to claim 21, Kresse disclosed a digital x-ray scanning apparatus comprising an x-ray source (1), an x-ray collimator (18), an x-ray detector (2), mounting means (6) for mounting the x-ray detector, scanning means (8, 12) for scanning the x-ray detector over an area, means for digital data acquisition from the x-ray detector (column 3, lines 52-56), and a control unit (16) for steering the x-ray apparatus, wherein: the mounting and scanning means comprise additional means (9, 10, 11) for orienting the x-ray detector in at least one dimension towards the x-ray source during a digital scanning procedure, an orienting movement and a scanning movement are independent degrees of freedom of the x-ray detector, and the x-ray apparatus can steer the orienting movement of the x-ray detector in coordination with the scanning movement of the x-ray detector; characterized by: several motor drive units (column 2, line 61 - column 3, line 14) and an electrical control means (column 3, lines 15-17) for driving and synchronizing the scanning movement and the orienting movement of the x-ray detector and a translation or swiveling movement of the x-ray source.

However, Kresse failed to teach that sliding clutches are mounted between at least one motor drive unit and the moving parts of the x-ray apparatus.

Stivender *et al.* taught employing a slide clutch (59) between a motor and moving part of an x-ray apparatus. Stivender *et al.* taught that the sliding clutch would slide at a predetermined force or resistance if the moving part encounters an obstruction (column 5, line 66 - column 6, line 14).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide sliding clutches between motor drive units and the moving parts of the x-ray apparatus, since a person would be motivated to protect moving parts from damage caused by a large force when the moving parts are obstructed from further movements.

Allowable Subject Matter

8. Claims 3-5, 17, 18, and 20 are allowed over the prior art.
9. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 3, the prior art fails to teach or fairly suggest a digital x-ray scanning apparatus comprising a rotational means for tilting the x-ray detector in order to maintain a constant aspect ratio of the x-ray detector as viewed from the x-ray source, the rotational means is a rotatable plate that is mounted on the carriage and receives the x-ray detector, and the rotatable plate is laterally extended for receiving an elongated single-line digital x-ray detector as claimed.

With respect to claim 4, the prior art fails to teach or fairly suggest a digital x-ray scanning apparatus comprising a rotational means for tilting the x-ray detector in order to maintain a constant aspect ratio of the x-ray detector as viewed from the x-ray source, and a

housing for receiving the translational and rotational means, the housing can be kept stationary during the scanning movement as claimed.

With respect to claim 5, the prior art fails to teach or fairly suggest a digital x-ray scanning apparatus comprising means for swiveling the x-ray source and the collimator in coordination with the scanning movement and the orienting movement of the x-ray detector, and a balanced suspension of the x-ray source and the collimator for a torque-free swiveling movement as claimed.

With respect to claim 6, the prior art fails to teach or fairly suggest a digital x-ray scanning apparatus comprising a motor drive unit and a mechanical coupling means for synchronously driving the scanning movement and the orienting movement of the x-ray detector and a translational or swiveling movement of the x-ray source as claimed.

With respect to claims 7-9, the prior art fails to teach or fairly suggest a digital x-ray scanning apparatus comprising a mounting means for mounting the x-ray detector, photographic x-ray imaging means comprising a cassette holder for photographic films, the mounting means comprising a housing that receives the x-ray detector and the cassette holder in such a way that the x-ray detector and the photographic film are facing toward different side faces of the housing, the mounting means performs a reorienting movement of the housing such that either the film cassette or the x-ray detector is positioned for x-ray imaging as claimed.

With respect to claim 17, the prior art fails to teach or fairly suggest a digital x-ray scanning apparatus that comprises the distance between the x-ray source and the x-ray detector, the distance between the x-ray collimator slit and the x-ray detector, and the distance between the patient and the x-ray detector as claimed.

With respect to claims 18-20, the prior art fails to teach or fairly suggest a digital x-ray scanning apparatus, wherein an orienting movement and a scanning movement are independent degrees of freedom of the x-ray detector, comprising a support arm that carries the x-ray source, the x-ray collimator, and a housing for the detector, the support arm is rotatable, and the x-ray source together with the x-ray collimator and the housing for the detector are tiltable with respect to the support arm as claimed.

Response to Arguments

10. Applicant's arguments, filed 21 May 2004, with respect to the drawings have been fully considered and are persuasive. The objection of the drawings has been withdrawn.
11. Applicant's arguments, filed 21 May 2004, with respect to claims 1-20 have been fully considered and are persuasive. The objections of claims have been withdrawn.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Grady *et al.* (U. S. Patent No. 4,363,128) disclosed sliding clutches in an x-ray apparatus.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen C. Ho
Patent Examiner
Art Unit 2882